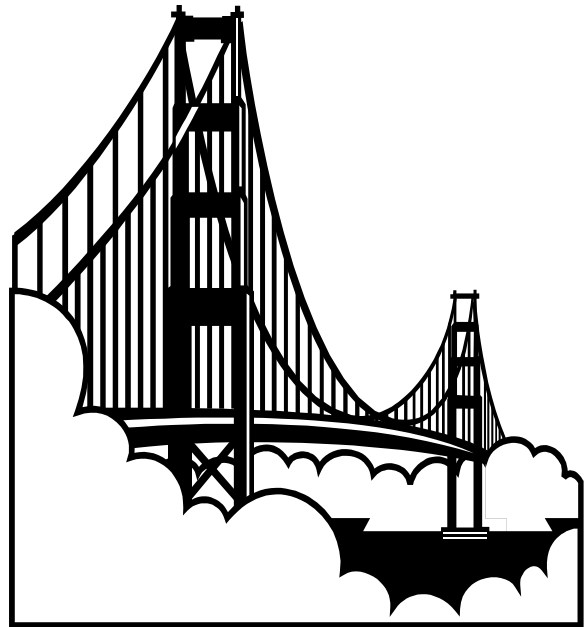


TECHNOLOGY EDUCATION STANDARDS

- 100. Nature of Technology
- 200. Technology and Society
- 300. Design
- 400. Abilities For A
Technological World
- 500. The Designed World



Technology Education

TE1000 THE AGE OF INTELLIGENT MACHINES.

Note: Stevie Wonder opens this program with a demonstration of two machines that widen his creative universe--a music synthesizer that talks and a machine that reads books aloud. The development of these machines takes the viewer into technological frontiers to explain artificial intelligence and expert systems. Machines are shown that perform functions once thought to be the sole domain of humans such as diagnosing illnesses, creating original art, and navigating jets. Run time is 29 minutes.

TE1006 CONSTRUCTION SYSTEMS TECHNOLOGY: DEFINING INPUTS. Bergwall, [1996].

Note: This video defines the construction fields as a system, introduces the universal systems model and examines the inputs component. Run time 20 mins.

TE2000 ONE STEP BEYOND. Pitsco.

Note: This program embodies the ideas and concepts necessary to make education real in this technology oriented world. It features changes in technology education and talks about learning to live in a technical world.

TE2163 AUTOCAD RELEASE 14 - GETTING STARTED. BERGWALL, [1995].

Note: This video discusses GUI basics and menus, introduces the command line, and discusses saving drawings, drawing aides and use of a prototype. Run time is 90 minutes.

TE3000 SUCCESSFUL EDITING FOR VIDEO. Films for the Humanities and Sciences, [1996].

Note: This program looks at the creative skills needed by a video editor and

also considers some of the practical aspects of post-production, using both linear videotape and nonlinear digital techniques. A range of examples illustrate the concepts - jumps in time and space, cutting interview material, crossing the line of action, jump cuts, controlling pace, association of ideas, and splitting audio and video edits. Sound techniques are illustrated for sound effects, dialogue, and music. More technical issues such as time-code, approaches to off-line and on-line editing, digital video effects, and digital nonlinear editing are also discussed. Run time is 32 minutes. 1996.

TE3001 BEHIND THE CAMERA: FILM EQUIPMENT. Films for the Humanities and Sciences, Note: This video is ideal for those who want to see what it's like to film from a dolly, a Steadicam, and even a helicopter. Filmmakers give a detailed description of an assortment of cutting-edge cameras and related equipment and demonstrate how these tools are used. Run time is 27 minutes. 2001.

TE3002 BEHIND THE CAMERA: FILM PROCESSING. Films for the Humanities and Sciences, Note: This program makes a fascinating visit to a laboratory to illustrate how mechanical and chemical processes turn those miles and miles of film into a finished product. Run time is 27 minutes. 2001.

TE3003 BEHIND THE CAMERA: PRODUCTION. Films for the Humanities and Sciences, [2001]. Note: In the program, veteran producers talk about how they choose a screenplay, get financial backing, and conceptualize the finished product. Run time 27 mins.

TE3004 BEHIND THE CAMERA: POSTPRODUCTION. Films for the Humanities and Sciences, Note: This program goes inside the editing suite, to see how the film is spliced to create the visual narrative and how the musical score and sound effects are added. Run time is 27 minutes. 2001.

TE4001 PERSONAL COMPUTER MAINTENANCE AND REPAIR--THE PC TRIAD. Bergwall, [1996]. Note: This video describes the three key elements of Personal Computer systems, explains how to isolate and diagnose PC problems, and focuses on how to formulate and test hypotheses, and explores common software issues. Run time 20 mins.

TE4002 PERSONAL COMPUTER MAINTENANCE AND REPAIR--PC CONFIGURATIONS AND THE PHYSICAL ENVIRONMENT. Bergwall, [1996].
Note: This video introduces the different types of computer configurations and examines the personal computer environment and its impact on a computer's performance. Run time is 20 minutes.

TE4003 PERSONAL COMPUTER MAINTENANCE AND REPAIR: THE ELECTRICAL ENVIRONMENT AND SAFETY. Bergwall, [1996].
Note: This video stresses how to work safely with the electrical components of computers, describes ways to reduce the effect of magnetic fields and lists two common power supply problems. Run time is 20 minutes.

TE4004 PERSONAL COMPUTER MAINTENANCE AND REPAIR: MAINTENANCE AND REPAIR TECHNIQUES. Bergwall, [1996].
Note: This video identifies five typical personal computer repair problems, defines the uses of device drivers, and explains IRQ's IO addresses and DMA channels. Run time is 20 minutes.

TE5000 FUNDAMENTALS OF INDUSTRIAL ROBOTICS.
Note: This video begins by dispelling the misconceptions many people hold about

robots. The basic components of robots are identified and methods of programming are presented. Career possibilities and skill requirements for those working with robots are explored.

TE5001 LASER MARKING AND SONOBOND WELDING.

Note: This video shows how lasers are used to mark metal products and discusses the use of computers to program the laser. The second part of the program demonstrates and shows uses of ultrasonic welding.

TE5003 POWDER METALLURGY.

Note: This program shows the process of powder metallurgy and the variety of products made. It outlines the advantages of powder metallurgy such as cost, versatility and precision. Run time is 15 minutes.

TE5004 LAX: POWER AND PRECISION.

Note: This video features LAX - Los Angeles's international airport. The program discusses modern technology and how it affects international commerce. It also covers efficiency and its relationship with technology.

TE5005 FUNDAMENTALS OF AERONAUTICS TECHNOLOGY. [01/01/94].

Note: This program gives a brief history of flight, identifies the parts of an airplane and their functions, and relates how a plane flies. Run time is 25 minutes.

TE5006 ENGINEERING TECHNOLOGY: WELDING ROD MODEL BRIDGES. [01/01/93].

Note: This video outlines basic engineering terms specific to building wood or metal bridges. The terms are made practical by constructing a scale model bridge using welding rods. Run time is 19 minutes.

TE5007 EXPLORING BROADCAST TELEVISION. [01/01/94].

Note: All aspects of producing the daily news for a local television station are explored in this program. Persons from each department discuss their part in the production. Specific workplace skills and educational requirements are covered. Run time is 25 minutes.

TE5008 EXPLORING NEWSPAPER PUBLISHING. [01/01/94].

Note: A look at all departments of a large city daily newspaper provides insight into the job duties and skills needed by employees who produce a daily paper. Run time is 25 minutes.

TE5013 CONSTRUCTION SYSTEMS TECHNOLOGY: DEFINING INPUTS. Bergwall, [1997].

Note: This video defines the construction field as a system, examines the inputs component, and identifies the desire to build a structure as a major input. Run time is 20 minutes.

TE5014 CONSTRUCTION SYSTEMS TECHNOLOGY:DETERMINING RESOURCES.

Bergwall, [1997]. Note: This video introduces seven basic types of resources, identifies employment opportunities, describes the value of information, and explores natural industrial materials. Run time is 20 minutes.

TE5015 CONSTRUCTION SYSTEMS TECHNOLOGY:BUILDING THE STRUCTURE.

Bergwall, [1997]. Note: This video outlines initial stages of building (site preparation, clearing, grading), examines structural foundations, explores framing, and details joints. Run time is 20 minutes.

TE5016 CONSTRUCTION SYSTEMS TECHNOLOGY:FINISHING THE STRUCTURE.

Bergwall, [1997]. Note: This video details electrical and plumbing procedures, explores heating and cooling systems, lists types of doors and windows, and describes methods of installing drywall, tile, siding, and roof finishing. Run time 19 minutes.

TE5017 CONSTRUCTION SYSTEMS TECHNOLOGY: OUTPUTS AND FEEDBACK.

Bergwall, [1997]. Note: This video reviews expected impacts established during the inputs stage, describes the importance of monitoring, and presents importance of plans, drawings, building codes, and regulations. Run time is 20 minutes.

TE5018 HOW DID THEY BUILD THAT SERIES: IRON AND STEEL. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. In this program, celebrate two thousand years of engineering achievement in Europe by looking at the two most fundamental building materials of the modern age, iron and steel. He visits two of Gustave Eiffel's greatest achievements, and one of the finest works in steel and glass in Paris.

TE5019 HOW DID THEY BUILD THAT VIDEO SERIES: DEFENSE. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. This program examines how the need to protect communities from external threats over the centuries has given the engineer a crucial role on which lives depend. Travel from a medieval castle in Scotland to a citadel in southern France before looking at the modern defenses used to protect the population from the sea.

TE5020 HOW DID THEY BUILD THAT VIDEO SERIES: CANTILEVER BRIDGES. Shopware. Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. The cantilever is one of the most basic structural forms. This program explains the cantilever principle in north-eastern England, then marvels at the great Victorian achievement of the Forth Rail Bridge before seeing how the cantilever develops new and exciting forms in Seville in Spain.

TE5021 HOW DID THEY BUILD THAT VIDEO SERIES: DOMES. Shopware. Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. A dome is a structure whose wholeness leads people to consider it a thing of great beauty and often mystical properties. But they are also supremely functional and ideal for sheltering congregations of all sizes. Visit a variety of domes in Italy, France and the UK.

TE5022 HOW DID THEY BUILD THAT VIDEO SERIES: FOUNDATIONS. Shopware. Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. The program investigates three buildings whose appearance suggests that they are about to topple at any moment: the Leaning Tower of Pisa, the Torres Puerta de Europa in Madrid and the Torre de Collserola in Barcelona.

TE5023 HOW DID THEY BUILD THAT VIDEO SERIES: TAKING ON THE SEA. Shopware. Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and

harnessing nature's power. An excellent overview of an interesting but vital area of construction. The sea has always posed a challenge to the expansion of human civilizations. This program looks at three structures which all have to deal with the threat of the sea: a lighthouse, flood gates and an oil rig.

TE5024 HOW DID THEY BUILD THAT VIDEO SERIES: ARCHES. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. The arch is one of the most reliable and enduring structural forms. In this program two thousand years of the arch's development are reflected in three stunning examples: round Roman arches in France, pointed and flat Gothic arches in Cologne and modern arches in Hamburg.

TE5025 HOW DID THEY BUILD THAT VIDEO SERIES: SUSPENSION BRIDGES.

Shopware. Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. From the earliest rope bridges in mountain gorges to the superlong sea crossings of today, the suspension bridge has been a consistently successful form. Visit bridges in Britain, Denmark and the Czech Republic to see how they work.

TE5026 HOW DID THEY BUILD THAT VIDEO SERIES: CONCRETE. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. The program presents an excellent overview of an interesting but vital area of construction. Though many think that concrete is a modern material, it is almost as old as building itself. Journey through time to see concrete's early use in Italy, the rise of reinforced concrete and a daring and beautiful modern masterpiece in France.

TE5027 HOW DID THEY BUILD THAT VIDEO SERIES: LEISURE SPACES. Shopware.

Note: Though many think that concrete is a modern material, it is almost as old as building itself. Journey through time to see concrete's early use in Italy, the rise of reinforced concrete and a daring and beautiful modern masterpiece in France. Leisure activities is as fundamental to our society as work or rest. In the tenth program of the series, Steedman looks at the challenges of building arenas for popular entertainment. The venues for pastimes from different ages are represented: a Roman amphitheater, a Victorian glasshouse and modern stadium.

TE5028 HOW DID THEY BUILD THAT VIDEO SERIES: TALL BUILDINGS. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. Building upwards has long been a means for people to show off their wealth or power. In this episode, we explore the ambitions and limitations of the engineers of skyscrapers. Scott Steedman visits a medieval Manhattan in Italy, the first true European skyscraper, and Europe's tallest building in Germany.

TE5029 HOW DID THEY BUILD THAT VIDEO SERIES: HARNESSING NATURE'S POWER. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. Being able to tap the natural resources of our planet is crucial to our world, and a great challenge to an engineer. Scott Steedman's trip around Europe takes him from a wind turbine in Sweden via a hydroelectric power station in the UK to a solar furnace in the Pyrenees.

TE5030 HOW DID THEY BUILD THAT VIDEO SERIES: UNDERGROUND SPACES. Shopware.

Note: This series of 13 videos takes a close look at the various engineering achievements used throughout history. Viewers will see how engineers have solved numerous problems using iron and steel, developing cantilever bridges, domes, foundations, arches, suspension bridges, underground spaces and more. Some of the programs will cover building materials like concrete while others will discuss such diverse topics as leisure spaces and harnessing nature's power. An excellent overview of an interesting but vital area of construction. The last program of the series goes underground to

explore how spaces can be created beneath our feet, and the many different uses to which that space can be put. The host drops down a mine in the UK, walks into a Norwegian mountain hall and ends up at the site of a new underground railway station in London.

TE5031 TRANSPORTATION TECHNOLOGY: LAND AND SEA. Meridian.

Note: In this video, viewers learn how the development of land- and sea-based transportation changed the world. Transportation by land created a more rapid exchange of goods, information, and travel as well as the development of commerce. As transportation systems advanced from good roads to railroads followed soon after by the automobile, they changed the speed of commerce, travel, communication, and also the way society functioned. Sea-based transportation opened up the entire world, allowing long-distance travel and trade with faraway places. Today, marine transportation is the most economical and efficient form of transporting large quantities of goods, and containerized shipping has revolutionized how countries trade. The video also discusses environmental concerns including scarce resources and escalating pollution. Run time is 18 minutes.

TE5032 TRANSPORTATION TECHNOLOGY: AIR AND SPACE. Meridian.

Note: Above the surface of the earth, two other forms of transportation occur: air and space transportation. Viewers explore the history of air and space travel as well as the components that make this type of transportation effective. Air transportation has connected our modern world to other nations, making long-distance travel fast and easily accessible to everyone. This video also discusses air highways and hub airports. Viewers also learn about the newest form of transportation technology, space transportation. Current space transportation has two main thrusts: an unmanned program of deep space exploration, and manned space exploration including the space shuttle program. Many benefits have occurred because of space transportation, including modern satellite techniques. Viewers are also encouraged to explore future career opportunities. Run time is 17 minutes.

TE5033 WHY PHYSICS. Cambridge Educational.

Note: This unique video puts the viewer in the passenger seat for a fast-paced road trip in search of the answer to the question...Why Physics? On a journey across the American Southeast, the host investigates the role of physics in our daily lives. Following along, viewers gain an appreciation for the fundamental concepts and principles of physics, visiting people and places that reveal the effects of the fabulous forces of physics in our everyday lives. With stops along the way including everything from rappelling to race cars, this whirlwind tour emphasizes the fun side of physics. It helps viewers understand that physics doesn't have to be abstract and remote, and demonstrates how the physical sciences relate to issues and experiences in our own lives and our own communities.

TE5034 CAREER ENCOUNTERS: MECHANICAL ENGINEERING. Meridian Education Corporation.

Note: This video is sponsored by the American Society of Mechanical Engineers, and focuses on the role of the mechanical engineer and how this profession affects our everyday lives. Students will see an interview with Jan Davis, NASA astronaut and mechanical engineer, who explains her exciting contribution to space exploration. Run time is 28 minutes.

TE5035 FUNDAMENTALS OF LASER TECHNOLOGY. Shopware, [1995].

Note: In this video, students learn the evolution of the laser through its history, theory, and everyday uses including checkout counters, bar code scanning, construction trades, and eye surgery. Run time is 13 minutes.

TE5036 INTRODUCTION TO MANUFACTURING TECHNOLOGY. Meridian Education Corporation.

Note: This video provides a basic overview of manufacturing technology including clear definitions. Also explains how manufacturing provides not only valuable products but also furnishes employment for many people. Discusses the free enterprise system and its part in manufacturing, and briefly examines manufacturing systems and their parts. Run time 16 mins.

TE5037 MANUFACTURING SYSTEMS. Meridian Education Corporation.

Note: In this video, more detailed information on the manufacturing system is given, including in-depth discussion of the types of manufacturing systems (continuing, intermittent, and custom, with discussion of each type's benefits and a comparison of the three), inputs, tools and equipment, workers, organizations, human and material resources, productivity, and quality control. Included is a discussion on modernization of manufacturing systems for maintaining and increasing productivity and quality. Runs 17 minutes.

TE5038 MANUFACTURING RESOURCES. Meridian Education Corporation.

Note: Material resources, human resources and capital resources are needed for any manufacturing system. Materials resources include raw materials (renewable and exhaustible), industrial materials, and engineered materials. Human resources include labor and manufacturing, which must work together to assure productivity and quality. Also discussed is the importance of capital and knowledge resources. Run time is 18 minutes.

TE5039 MANUFACTURING PROCESSES. Meridian Education Corporation.

Note: Processing takes materials and turns them into finished products. It includes casting, molding, forming, separating, conditioning, assembling, and finishing. Each area is examined and explained. A brief discussion is also given of the properties of manufacturing materials (mechanical, physical, thermal, chemical, electrical, optical, and acoustical). Runs 15 minutes.

